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ABSTRACT

Trends during the 1980s are described including high infant mortality, no decline in low birthweight percentages, an increase in the black-white infant mortality gap, more high-risk pregnancies, and inadequate prenatal care. Inadequate progress in reducing infant mortality is attributed in part to the limited technological ability to save increasingly smaller infants. Graphs compare infant mortality by race, cause of death, and in different countries and states. Low birthweight is designated the most significant factor in determining infant death and disability. Data is presented projecting cost savings from preventing low birthweight. Graphs compare low birthweight percentages by race and to infant mortality percentages. Higher black infant mortality rates are attributed to poverty and lack of access to health care. Data on low birthweight percentages and infant, neonatal, and postneonatal mortality rates by race is presented graphically. Also documented is the increased risk of poor pregnancy outcomes associated with known risk factors. The increasing number of women receiving inadequate prenatal care is attributed primarily to lack of finances, health insurance, or Medicaid services. Racial differences in the number of women receiving inadequate and early prenatal care are found. An argument is made for the cost effectiveness of providing funds for health care. Contains 124 end notes and 22 references. (RM)

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Troubling Trends:

The Health of America's Next Generation

National Commission to Prevent Infant Mortality

Care for our Children
Care for our Future

EC 233492

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Troubling Trends:

The Health of America's Next Generation

prepared by

The National Commission to Prevent Infant Mortality

The Honorable Lawton Chiles
U.S. Senate (Ret.)
Chairman

February 1990

Each day in America 3,548 infants are born to mothers who received less than adequate prenatal care; 719 infants are born low birthweight; and 105 infants die.

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Chapter I
Troubling Trends

Overview

After two decades of steady improvement in infant mortality in the United States, the 1980s came as a shock. Progress in reducing the infant mortality rate stalled, resigning the United States to a rank behind nineteen other developed countries in the rate of infant deaths. The gap between white and black infant death rates widened, leaving black infants more than twice as likely to die in infancy as white infants. Progress in lowering the percentage of infants born low birthweight stagnated, placing more than one-quarter million infants per year at risk for chronic handicapping conditions. The 1980s also witnessed a growing percentage of women receiving late or no prenatal care, despite the known importance of prenatal care in improving birth outcomes.

Compounding these troubling trends, larger societal threats to infant health intensified during the 1980s. A new epidemic of "crack" cocaine use among pregnant women threatened the lives of an estimated 100,000 infants each year. More newborns became infected with the AIDS virus. The effects of poverty, lack of access to prenatal and pediatric care, and exposure to harmful substances such as tobacco and alcohol continued to place pregnant women at risk for poor birth outcomes.

Together, these negative trends have frightening implications for the health of an entire generation of children. Early affronts to fetal growth and development can lead to

physical and learning disabilities that cost our nation dearly -- in lives lost, increased medical and education costs, and in the long run, a less skilled and less productive workforce. These trends can be reversed if our nation will commit the necessary resources to fully utilize existing knowledge, programs, and strategies. Preventive prenatal and pediatric care can significantly reduce infant death and disability. However, until access is improved and the factors placing pregnant women at risk are reduced and eventually eliminated, the negative maternal and infant health trends of the 1980s will worsen.

The Trends

(1) CONTINUED HIGH INFANT MORTALITY

With an infant death rate of 10.1 deaths per 1,000 live births in 1987, the U.S. ranked twentieth in infant mortality among the industrialized nations. Since 1981, our country's rate of decline in the infant mortality rate has slowed from 4.7 percent per year in the 1970s to 2.7 percent per year in the 1980s.

But even these numbers, dismal as they are, fail to reflect the true severity of the infant mortality problem. Some regions of the country have become infant mortality "disaster areas" with infant mortality rates much higher than state or national averages and often rivaling the rates in Third World countries. Cities such as Washington D.C., Detroit, and Philadelphia have infant mortality rates which are twice the national average and higher than Jamaica or Costa Rica.

Our persistent, high infant death rates demonstrate that past infant mortality reduction efforts have not been sufficient. These current trends provide a strong indicator that infant mortality will worsen in the years ahead, especially as more communities feel the impact of increased poverty among children, drugs, and fewer health care providers serving high-risk families.

(2) NO DECLINE IN PERCENTAGE OF INFANTS BORN LOW BIRTHWEIGHT

During the 1970s the percentage of infants born low birthweight (under 5 1/2 pounds) declined steadily from eight to seven percent of all births. But throughout the 1980s, the low birthweight rate stagnated at 6.8 percent, with more than one-quarter million low birthweight infants born each year. In 1987 the low birthweight rate showed a disturbing increase to 6.9 percent of all births.

Low birthweight is a major contributor to infant death and disability. Infants born at low birthweight are 40 times more likely to die during their first month of life and two to three times more likely to suffer from chronic handicapping conditions such as blindness, deafness, and mental retardation.

Risk factors associated with low birthweight include young maternal age, poverty, low levels of education, high number of previous births, inadequate prenatal care, poor nutrition, smoking, and substance abuse. If the country's infant mortality rate is to decrease substantially in the 1990s, the factors that put mothers at risk of having low birthweight infants must be reduced.

(3) AN INCREASE IN THE BLACK-WHITE INFANT MORTALITY GAP

For years, the black infant mortality rate has declined at a slower pace than the white rate, resulting in a widening of the black-white infant mortality "gap." The most recent statistics available indicate that in 1987 the gap between the black and white infant mortality rates was the widest recorded since reporting of these data began in 1940. Black infants are now more than twice as likely to die as white infants.

The gap between the black and white low birthweight rates is also on the rise. In 1987, blacks were nearly three times as likely to be born at very low birthweight (under 3 and 1/4 pounds).

The reasons for the large and growing disparity between the health of black and white infants are not entirely understood. Researchers cite many factors such as access to preventive health services, economic considerations, and unhealthy lifestyles. Closing the unconscionable gap between black and white infant mortality will require a reduction in these risk factors, coupled with action by community leaders and the government.

(4) AN INCREASED NUMBER OF HIGH-RISK PREGNANT WOMEN

Crack use, AIDS, syphilis, and births to unmarried mothers all increased dramatically during the 1980s. Together these threats have contributed to a "new morbidity" or sickness among American infants.

Recently the Select Committee on Children, Youth, and Families reported that the incidence of drug-exposed births quadrupled between 1985 and 1989.[1] A 1988

nationwide survey found 11 percent of pregnant women using an illegal drug, with some hospitals reporting rates up to 27 percent.[2] The evidence points to widespread illegal drug use across socioeconomic lines.[3] Crack cocaine use during pregnancy exposes infants to problems ranging from miscarriage to low birthweight, neurobehavorial problems, and congenital malformations.

One-third of infants born to women testing positive for the AIDS virus will show evidence of infection with the virus or die by the age of one. By the end of 1989, there were 1,643 cases of AIDS in children under age five.[4] With the rising incidence of AIDS cases among women of childbearing age, there is little question that pediatric AIDS cases will increase substantially over the next ten years.

In 1988, syphilis cases among infants were at an all-time high, with nearly seven times more cases reported than a decade earlier.[5] Because syphilis in infants can be prevented by detection and treatment early in pregnancy, this increase indicates major gaps in syphilis control and prenatal care. The consequences for infants infected with syphilis include premature birth, low birthweight, and long-term cardiac and neurologic problems. The outlook for the future is poor -- the 1989 rate of syphilis infection among women of childbearing age is expected to be even higher than in 1988.

The number of infants born to unmarried women in 1987 (933,013) was 40 percent greater than the number reported in 1980 (665,747). The risk of an infant death is nearly twice as high for an unmarried woman as for a married woman. This increased

risk is largely attributable to the relative lack of social and financial resources available to unmarried mothers.

(5) A HIGHER PERCENTAGE OF BIRTHS TO WOMEN WITH INADEQUATE PRENATAL CARE

Between 1980 and 1987, the percentage of women obtaining late or no prenatal care increased 26 percent for blacks and 17 percent for whites. In 1987, more than 74,000 pregnant women received no prenatal care at all -- amounting to a 50 percent increase over the 1980 rate. These are startling trends in the wrong direction considering the widely known association between prenatal care and healthy births.

The most significant barrier to prenatal care is the inability to pay for it. Since 1984, Congress and the states have passed legislation to decrease the financial barriers to maternity care faced by nearly 15 million women of childbearing age. Congress recently expanded Medicaid to cover pregnant women and children to age six with family incomes below 133 percent of the federal poverty level ($13,380 for a family of three). Even with this latest expansion, however, a large number of pregnant women and young children remain uninsured. The Congressional Budget Office estimates that if Medicaid eligibility were expanded to 200 percent of poverty -- as the National Commission to Prevent Infant Mortality recommended in 1988 -- an additional 305,000 pregnant women could be served.[6]

Financial access alone, however, is not sufficient to bring all women into prenatal care. Although a low-income woman may now be "entitled" to prenatal care services under

Medicaid, she often faces a cumbersome eligibility process, long waits for appointments, inhospitable conditions at health care sites, or no means of transportation to appointments. Congress has authorized measures such as "one-stop shopping" for health and social services and home visiting for high-risk pregnant women, which would reduce some of these non-financial barriers, but has yet to provide funding.

In addition, the lack of available obstetrical providers has reached a critical point for low-income women. Although obstetrical provider availability has declined in recent years for all women, it has always been inadequate for poor women. Only 63 percent of obstetricians report that they take Medicaid patients; those who do see only about twelve patients a year.[7] The availability problem is even greater among family practice physicians; states report that since 1980, between 8 and 75 percent of family physicians stopped delivering babies.[8] Nearly 800 counties in the United States have no clinic site providing prenatal care.[9] In sum, the maternity care delivery system is failing those pregnant women most at risk.

Agenda for the Future

The precise impact of these negative trends is unknown. However, it is clear that the steady improvements in infant health that the United States experienced during the 1960s and 1970s stalled in the 1980s and very likely will stagnate in the future unless immediate steps are taken.

The negative maternal and infant health trends of the 1980s cast a shadow on our children's future. This need not be the case. We know that much infant death and

disability can be avoided through preventive prenatal and pediatric care. We can no longer rely on advances from expensive, high-tech, neonatal medicine to significantly decrease our infant mortality rate in the future. Rather, we must improve availability and access to preventive health care for pregnant women and infants, and work to change the demographic, socioeconomic and behavioral factors that put pregnant women at risk for poor birth outcomes. Both will help decrease the incidence of low birthweight, the major preventable cause of infant mortality.

The President, members of Congress, and leaders in both the public and private sector must commit the necessary resources and energy to improving access to health care for pregnant women and their young children. However, it is not enough to provide access alone. Aggressive outreach and education are also needed if we are to help hard-to-reach populations.

In 1988, the National Commission to Prevent Infant Mortality recommended to the President and the Congress that two broad steps be taken to improve the health of mothers and young children in our nation: (1) pregnant women and infants must be provided universal access to health care, and (2) pregnant women and infants must become a front-line national priority. Without these steps, the troubling trends of the 1980s will continue in the 1990s at the expense of tomorrow's children.

Chapter II
Continued High Infant Mortality

Overview

The infant mortality rate is an important and sensitive gauge of the health and welfare of a population. Of the 3.8 million infants born in the United States in 1987, nearly 39,000 died before reaching age one, amounting to an infant mortality rate of 10.1 infant deaths per one thousand live births.

At present, the United States ranks a poor twentieth among the developed countries in its infant mortality rate, well behind other nations which, years ago, fared much worse than the United States. Many communities across the country have become infant mortality "disaster areas" -- with high rates of infant mortality caused by rampant poverty, unemployment, drug use, and a lack of health care providers.

In order to understand the stalled progress in infant mortality, it is helpful to examine the nature and causes of infant deaths. Infant deaths are usually divided into two categories according to age: neonatal and postneonatal. Neonatal mortality (deaths to infants under 28 days) is generally associated with influences surrounding the pregnancy and birth such as low birthweight, inadequate maternal nutrition, lack of access to prenatal health services, and congenital defects. Postneonatal mortality (deaths to infants between 28 days and one year of age) tends to be associated with the infant's environmental circumstances such as poverty; lack of access to pediatric care; and

inadequate food, sanitation, or supervision. Recently, however, the distinction between the causes of deaths in the two periods has blurred in part due to advances in neonatal medicine which have enabled more very small, premature infants to survive the neonatal period.

The leading causes of infant death have changed greatly since the turn of the century. At that time, when nearly one hundred out of every thousand infants died, most infant deaths were to "older" infants. These deaths were largely related to poor living conditions, lack of sanitation, and the resultant spread of infectious disease. Between 1900 and 1950, however, improved living conditions, immunization levels, and access to pediatric care greatly reduced the number of infant deaths in the postneonatal period.

Over the past thirty years, the greatest risk of infant death has shifted to the neonatal period. In the 1970s, advanced neonatal medicine contributed to greater survival rates of low birthweight infants, causing a rapid decline in neonatal mortality. In the 1980s, however, as the ability of neonatal technology to save smaller and smaller infants began to reach its limit, the decline in neonatal mortality also slowed. And throughout the 1980s, there was little reduction in postneonatal mortality.

Our past successes in reducing infant mortality have important implications for our future policy decisions. First, the recent stalling of the neonatal mortality rate indicates that future reductions in neonatal mortality will require a decreased incidence of low birthweight or a better understanding of birth defect prevention.

Second, the existence of impoverished infant mortality "disaster areas" is a sign that reducing postneonatal death must again become a priority. Because postneonatal mortality is often related to poverty and inadequate health care, attention must be directed to improving living conditions among disadvantaged populations. Also, a greater number of sick infants now living past the first month will require additional social supports and medical care for their chronic health conditions. In sum, to reduce the country's stagnating infant mortality rate we will need to lower the incidence of low birthweight, improve living conditions, and create greater access to preventive health care for infants in low-income families.

The Facts

INFANT MORTALITY:

(see figure 2-1)

- The 1987 infant mortality rate of 10.1 deaths per thousand live births represents 38,408 infants dying before the age of one, or 105 infants deaths daily.[10]
- Over the past half century, the infant mortality rate has declined steadily from 47.0 in 1940 to the present rate of 10.1 in 1987.[11]
- Current concern arises from the slowed progress in reducing infant mortality since 1979. The annual rate of decline in infant mortality has slowed from 4.7 percent per year during the 1970s to 2.7 percent per year during the 1980s.[12]
- At the present pace, the Surgeon General's goal of reducing the infant mortality rate to no more than 9 infant deaths per thousand by 1990 will be difficult to meet. The goal of 12 deaths per 1,000 live births for all racial and ethnic groups will be impossible to meet.
- Between 1987 and the year 2000, 440,000 infants can be expected to die if progress in reducing infant mortality continues at its present rate.

NEONATAL AND POSTNEONATAL MORTALITY:

(see figure 2-2)

- Two-thirds of all infant deaths occur in the neonatal period or first month of an infant's life. In 1987, a total of 24,627 infants died in the neonatal period.[13]

- In 1987, the leading causes of death during the neonatal period were congenital anomalies (23%), disorders relating to premature birth (13%), respiratory distress syndrome (13%), and the effects of maternal complications (6%).[14]

- One-third of all infant deaths occur in the postneonatal period (after 27 days but before the infant's first birthday). In 1987, a total of 13,781 infants died in the postneonatal period.[15]

- In 1987, the leading causes of death during the postneonatal period were Sudden Infant Death Syndrome (35%), congenital anomalies (16%), injuries (6%), and infection (4%).[16]

- During the 1970s and 1980s postneonatal mortality declined at a slower rate than neonatal mortality. This is in part due to an increased number of unhealthy infants surviving the first twenty-seven days after birth who later die in the postneonatal period.[17]

INTERNATIONAL COMPARISONS:

(see figures 2-3 and 2-4)

- The U.S. infant mortality rate is high compared to most of our economic partners. In 1987, the United States ranked 20th in infant mortality, behind countries such as Canada, Spain, France, and the United Kingdom. Even less industrialized Singapore and Hong Kong recorded lower infant mortality rates.[18]

- Even considering the white infant mortality rate alone, the United States ranks 14th in 1987 among the developed countries.[19]

- Japan's experience demonstrates the importance of a national commitment to maternal and child health and access to health services. Between the early 1950s and 1987, the U.S. international rank in infant mortality declined from 6th to 20th. After creating a universal health care system for pregnant women and children, Japan's rank improved from 17th to 1st.

- The U.S. infant mortality rate is twice as high as Japan's (10.1 versus 5.0). If the 1987 U.S. rate had equalled Japan's, almost 20,000 of the 38,408 American infant deaths would have been prevented.

- In 1987, an infant born in Poland or Hungary had a better chance of celebrating his or her first birthday than a black child born in the United States.[20]

REGIONAL, STATE, CITY COMPARISONS:

(see figure 2-5)

- Substantial variation exists between the states in rates of infant mortality -- mostly due to differences in population risk groups residing in each state and unequal access to care or quality of care between states.[21]

- The risk of infant death in the three states with the highest infant mortality is 70 percent greater than in the three states with the lowest infant mortality.[22]

- The highest rates of infant death are concentrated in the South -- the infant mortality rate in South Carolina is nearly 50 percent higher than in Nebraska. Both black and white infant mortality rates in the South are higher than the national average.

- The twenty-two cities in the U.S. with populations of more than 500,000 account for nearly 19 percent of all infant deaths and low birthweight. In 1987, Detroit ranked worst with a rate of 19.7 per thousand, while San Francisco ranked best with a rate of 7.7.[23]

- Based on preliminary data, it appears that some counties and cities in the U.S. are beginning to experience a disturbing rise in infant deaths. The Los Angeles County infant mortality rate rose from 8.2 per thousand live births to 9.6 in 1988 and the percentage of infants born low birthweight increased from 5.3 to 6.2 percent. Between 1987 and 1988 in Washington D.C., the infant mortality rate rose from 19.6 to 23.2 and the low birthweight rate increased from 13.6 to 14.3.

Chapter III
Low Birthweight Rate Stagnates

Overview

Between 1970 and 1980 the infant mortality rate in the U.S declined by almost 40 percent (from 20.0 to 12.6 per thousand live births), yet there was no comparable decline in low birthweight births. During the same period, the percentage of low birthweight births declined only moderately from 7.9 to 6.8. In the 1980s there was an actual increase in the percentage of infants born low birthweight (under 5 1/2 pounds) from 6.8 in 1980 to 6.9 in 1987. Although small in number, very low birthweight births (under 3 1/4 pounds) have increased steadily throughout the decade.

The most significant factor in determining infant death and disability is low birthweight. The 262,344 infants born each year weighing 5.5 pounds or less are at greater risk for long-term health problems or early death than infants born normal weight. The risk of death is particularly high during the first four weeks of life, although the consequences of low birthweight may persist throughout the child's life. Low birthweight infants are at risk for a variety of long-term physical and learning disabilities, particularly if the infant grows up in a disadvantaged household.

The impact of low birthweight can be reduced in two ways: (1) prevention of low birthweight in the first place or (2) life-saving medical technology after birth. The latter practice has been quite successful over the past few decades in reducing infant deaths during the first month of life. However, neonatal medicine is expensive and

costs our nation more than $2.5 billion per year. In addition, many low birthweight survivors are left with persistent physical and learning problems.

Prevention of low birthweight will require a reduction in the risk factors that lead to low birthweight. We know that some groups of mothers have higher rates of low birthweight because they are poor, lack access to health care, or practice risky behaviors during pregnancy. Consequently, policies to reduce low birthweight will need to focus on reducing levels of poverty, unintended pregnancy, low levels of education, inadequate prenatal care, poor nutrition, smoking, and substance abuse. So far, the nation has not been successful at reducing these risk factors.

The Facts

LOW BIRTHWEIGHT

(see figures 3-1 and 3-2)

- Between 1970 and 1987, the infant mortality rate declined from 20.0 to 10.1 per 1,000 live births. The low birthweight rate, on the other hand, stalled. After declining from 7.5 in 1950 to 6.9 in 1979, it remained virtually unchanged at 6.8 percent between 1980 and 1986. The 1987 rate showed a disturbing increase to 6.9 percent.

- Low birthweight is a result of an infant born either (1) prematurely, i.e., "too soon"; (2) with poor growth given the length of gestation, i.e., "too small"; or (3) with both problems.

- Each year, more than a quarter million infants are born low birthweight (under than 5 1/2 pounds) and nearly 50,000 are born very low birthweight (under 3 1/4 pounds).[24]

- Low birthweight is the primary risk factor for infant mortality and is strongly associated with infant morbidity, including congenital malformations, developmental disabilities, cerebral palsy, and other handicaps.[25]

- An infant born low birthweight is almost 40 times more likely to die within the first four weeks of life and 2 to 3 times more likely to suffer from chronic handicapping conditions such as blindness, deafness, and mental retardation.[26]

- The risk of an infant dying becomes greater the lower the weight of the infant at birth -- the risk of infant death during the first four weeks of life is 200 times greater for the very low birthweight baby than for the normal weight baby.[27]

- Low birthweight infants account for a disproportionate percentage of all infant deaths. While low birthweight births comprise only 6.8 percent of infants born, they make up 58.4 percent of all infant deaths.[28]

- Low birthweight is most strongly associated with infant deaths that occur in the neonatal period or first month of life. During this period, 73 percent of the infants who died were low birthweight, whereas 32 percent of the infants who died after one month of age were low birthweight.[29]

- Inadequate nutrition among pregnant women may account for as much as 57 to 65 percent of babies born with low birthweight.[30]

- Low birthweight is associated with learning disabilities. One longitudinal study found one out of six very low birthweight infants to be moderately or severely handicapped, and one out of three to have indications of mild to moderate educational disabilities at four to six years of age.[31]

COSTS

- Small improvements in the average birthweight of all low birthweight infants would result in an immediate savings of $70 to 95 million in short-term acute care costs -- long-term cost savings would be much greater.[32]

- The "saving after the fact" approach to infant health is extremely expensive. The total cost of neonatal intensive care approaches $2.5 billion per year.

- In 1988, the Office of Technology Assessment reported that for every low birthweight birth averted, we save between $14,000 and $30,000 on the health care costs associated with low birthweight.[33]

- The state of Utah found that very low birthweight infants born to Medicaid mothers cost an average of $63,000, while those born normal birthweight cost an average of $2,700.[34]

- Utah found that while only 1.7 percent of all infants born to Medicaid mothers were low birthweight, they consumed 24 percent of all Medicaid expenditures for deliveries.[35]

GROUP COMPARISONS

- The risk of low birthweight is higher for women who are poor; black; younger than age 17; have little or no prenatal care; have inadequate diets and gain less than 20 pounds during pregnancy; and for women who smoke, abuse drugs, or consume excessive amounts of alcohol. The strongest correlations are with poverty and minority status.[36]

- In 1987, black infants were more than twice as likely to be born low birthweight as white infants (12.7 percent versus 5.7 percent).[37]

- Because low birthweight rate among black infants stalled while it improved slightly among white infants, the black-white low birthweight gap increased during the 1980s.[38]

- Compared to other developed countries, the U.S. low birthweight rate is high. The eight countries with the lowest infant mortality rates all have low birthweight rates ranging from 4 to 5 percent, while the U.S. rate is nearly 7 percent. Even among whites alone, the U.S. 1987 rate of 5.7 percent is substantially higher.[39]

Chapter IV
Black-White Infant Mortality Gap

Overview

Throughout this century black infants in the United States have faced a far greater risk of death than white infants. As a nation, we have had no success in closing the longstanding gap between black and white infant mortality. The recent slowdown in the decline of the black infant mortality rate in the 1980s has contributed to a widening of the gap. Black children today are more than twice as likely as white children to die during infancy.

Higher mortality among black infants is due largely to more black infants being born low birthweight. Black women are twice as likely to have an infant born low birthweight (under five and one-half pounds), and three times as likely to have an infant born very low birthweight (under three and one-quarter pounds). Low birthweight infants are more than 40 times as likely to die in the first four weeks of life and face increased risk of chronic handicapping conditions.

Being black does not in itself put a woman at high risk for adverse pregnancy outcomes. The increased risk is due to a greater concentration of several sociodemographic risk factors such as limited education, young maternal age, being unmarried, and, most significantly, poverty.[40] In combination, these factors impede a pregnant woman's early and regular receipt of prenatal care.

Black infants are far more likely than white infants to die of preventable causes. Blacks have substantially higher rates of mortality for every cause of infant death except one -- congenital anomalies -- the least preventable cause of infant death.[41] Other causes of infant death such as low birthweight and infection, which are largely preventable through adequate prenatal care and health and social services during the first year of life, are more prevalent among black infants. This suggests that poverty and lack of access to health care services contribute to the higher black infant mortality rate.

Closing the black-white infant mortality gap will not require major new scientific breakthroughs. It will, however, require greater investment in interventions designed to reduce low birthweight. The most important intervention is early, comprehensive prenatal care which should include education, outreach, patient education, nutrition counseling and supplementation, smoking cessation, and drug and alcohol abuse treatment. Closing the gap will require better funding of programs that improve the survival of black infants -- particularly those born at low birthweight -- such as pediatric care, immunization programs, home visiting, and accident prevention. These interventions must be provided in a setting that offers comprehensive, coordinated care. Without such efforts, the black-white gap may widen even further.

The Facts

(See figures 4-1, 4-2, 4-3, 4-4)

- There has been no improvement in the gap between the black and white infant mortality rate in over twenty-seven years.[42]

- In 1987, the white infant mortality rate was 8.6 per thousand live births; the black rate, 17.9; Hispanic rate, 7.9; Asian rate, 5.4; and Native American rate, 9.9.[43]

- Black infants are twice as likely as white infants to die in the first year of life. With a 1987 black infant mortality rate of 17.9 (versus 8.6 for whites), our nation will fall far short of meeting the Surgeon General's goal of no more than 12 black infant deaths per thousand live births by the year 1990.

- The western states of the U.S. report lower rates of black infant mortality than the rest of the country, mainly due to a lower rates of black low birthweight. This suggests that improvements in black infant mortality are achievable.[44]

- A black infant born in 1987 had less chance of living to his first birthday than did a white infant born in 1970. An infant born in Cuba had a better chance of surviving than a black infant born in Washington, D.C.[45]

- The recent slowdown in the rate of decline in infant mortality is most apparent for blacks. In 1987, the black infant mortality rate declined by less than 1 percent -- the third year in a row the decline has hovered near 1 percent. The white rate declined by 3.4 percent.[46]

- The infant mortality rate for Hispanics and Asians is similar to the white rate. The black rate, on the other hand, is over 100 percent higher, and the Native American rate is 40 percent higher.[47]

- The gap in infant mortality between blacks and whites reflects a higher incidence of low birthweight among blacks (white, 5.7 percent; black, 12.7 percent) and a poor survival rate for black infants born at normal weight.[48]

- The low birthweight rate differs widely across ethnic groups and across cultural subgroups within those ethnic groups. In 1987, the low birthweight rate for white infants was 5.7 percent; for blacks, 12.7 percent; for Hispanics, 6.2 percent; for Asians, 6.4 percent; and Native Americans, 6.2 percent.[49]

- Black and Hispanic mothers are more likely to receive late or no prenatal care. In 1987, 5.0 percent of all white mothers received prenatal care in the third trimester or not at all compared to 11.1 percent of black mothers, 11.7 percent of Native American mothers, and 12.7 percent of Hispanic mothers.

Chapter V
Increased Number of High-Risk Mothers

Overview

Many of the risk factors for low birthweight and infant mortality have already been identified. Children born to women who are poor, young, minority, under-educated, and those born to women who fail to get early prenatal care or whose pregnancies are unintended are at greatest risk. Increases during the 1980s in "crack" cocaine use, AIDS, syphilis, and births to unmarried mothers further threaten the health of our future generations. Our nation is losing the fight against low birthweight and infant mortality because it has failed to reduce the risks that put the health of mothers and children in jeopardy; in some cases these risks have actually increased.

The problem of crack-addicted pregnant women is recent and escalating. The consequences to the fetus are often serious. Rather than operating as a wall to protect the developing embryo and fetus, the placenta acts more like a sieve, admitting drugs readily from the maternal to the fetal blood stream. Infants born to women who used illegal drugs during pregnancy experience a greater likelihood of prematurity, low birthweight, and congenital defects. They may also suffer from drug withdrawal, and developmental and learning disabilities. Maternal drug use creates an enormous burden for society in its impact on children -- yet shockingly few programs exist to treat substance abusing pregnant women.

In 1989 there were 547 cases of AIDS transmission from mothers to newborns, an increase of 17 percent from 1988. The majority of infants become infected due to their mother's use of intravenous drugs or through her sexual contact with male intravenous drug abusers. Tragically, mothers themselves often do not know they are infected until the HIV virus is detected in their newborns.

Congenital syphilis, an infection which can cause premature birth, low birthweight, mental retardation, and chronic health problems, is almost entirely preventable with proper screening and treatment in pregnancy. Yet last year, 702 cases of congenital syphilis were reported -- reflecting the highest rate since 1978.[50] Many women are not screened for syphilis because they do not get early, regular prenatal care. The increasing number of women getting late or no prenatal care is bound to exacerbate this troubling trend.

In 1987, 933,013 infants were born to unmarried mothers, a 40 percent increase over 1980.[51] These infants are at increased risk for health problems, largely due to the relative lack of financial and social supports available to unmarried women. Unmarried mothers are three times as likely to receive inadequate prenatal care and their children are twice as likely to die in infancy.

Increases in crack use, AIDS, syphilis, and births to unmarried mothers pose immediate threats to infants born in the 1980s, but attention to these problems should not overshadow other well-known behavioral risks which comprise a large portion of

preventable infant mortality. Risky behaviors such as smoking and alcohol abuse during pregnancy are strongly associated with poor birth outcomes.

Teen pregnancy is another risk factor which continues to pose a serious threat to the approximately 470,000 babies born to teen mothers each year. Infants born to teen mothers are two to three times more likely to be born low birthweight. However, the higher rates of infant death and disability are not a foregone conclusion. Teens who receive good prenatal care do not have higher rates of low birthweight or infant mortality.[52]

The importance of pregnancy planning cannot be overemphasized. The best protection available against low birthweight and other poor pregnancy outcomes is for a woman to actively plan for pregnancy and enter pregnancy in good health and with as few risk factors as possible. Research indicates that risky behaviors are most harmful to the developing fetus between two weeks and two months after conception.[53] The next best solution is to identify and address risk factors early in the pregnancy through prenatal care before serious and permanent damage is done to the developing fetus.

The Facts

ILLEGAL DRUG USE:

- The incidence of drug-exposed infants is increasing dramatically. A 1989 survey conducted by the Select Committee on Children, Youth and Families found 15 of 18 hospitals reporting 3 to 4 times as many drug-exposed births as in 1985.[54]
- A 1988 survey of 36 hospitals across the nation found that 1 out of every 11 infants was born to a woman who abused illegal drugs during pregnancy, amounting to a national estimate of 375,000 drug-affected infants annually.[55]

- Illegal drug use during pregnancy is associated with poor pregnancy outcomes and infant health and development problems. Cocaine use during pregnancy increases the rate of spontaneous abortion, placental abruption, low birthweight, neurobehavioral problems, Sudden Infant Death Syndrome (SIDS), and genitourinary tract malformations.[56]

- The incidence of drug abuse during pregnancy among middle- and upper-income women is widely underestimated. A 1989 study found no significant difference between the rate of drug use among women receiving care at public clinics and those visiting private physicians. It also revealed that white women were slightly more likely to abuse drugs during pregnancy than black women.[57]

AIDS

- Experts estimate that 30 to 40 percent of the babies born to HIV-infected mothers will go on to develop the disease.[58]

- As of December 1989, 1,643 cases of AIDS in children younger than age 5 had been reported.[59]

- In 1989, there were 547 documented cases of AIDS transmission from mothers to newborns.[60]

- Evidence suggests that the AIDS virus is transmitted from infected mothers to their infants while in the uterus by the passage of the virus through the placenta, during labor and delivery through exposure to infected maternal blood and/or vaginal secretions, and, rarely, through breast feeding. The remainder of infections occur through blood transfusions or use of blood products.

- Minority children, many of whom face urban poverty, poor health, lack of access to adequate health care, and educational disadvantages, comprise the majority of pediatric AIDS cases.

SYPHILIS:

- The incidence of syphilis among infants is increasing. In 1988, syphilis cases in infants were at their highest rate in a decade, with 702 cases reported.[61]

- Infants born infected with syphilis are at increased risk of premature birth, low birthweight, mental retardation, chronic health problems, and an early death.

- Complications of congenital syphilis are completely preventable when women are appropriately screened and treated during pregnancy.[62]

UNMARRIED MOTHERS AND UNINTENDED PREGNANCY:

- o Unmarried mothers are more than three times as likely as married mothers to receive inadequate prenatal care.[63]

- o In 1982, 40 percent of all births were unplanned. The rate of unplanned births among whites was 36 percent and among blacks was 58 percent.[64]

- o Infants who are unplanned or unwanted have a greater risk of low birthweight. If all pregnancies were planned, the rate of low birthweight could be reduced by 5 percent among white infants, 16 percent among black infants, and 12 percent overall.[65]

- o Infant mortality could be reduced an estimated 10 percent if all women not desiring pregnancy used contraception.[66]

- o Family planning is a key program in the effort to reduce infant mortality, prevent teen pregnancy, and halt the spread of AIDS.

SMOKING:

- o One out of four married mothers with infants born in 1980 smoked during pregnancy.[67]

- o Maternal smoking increases the risk of low birthweight births. If maternal smoking were eliminated, we could expect a 25 percent reduction in low birthweight births and a 10 percent reduction in infant mortality -- resulting in 3,841 fewer infant deaths in 1987.[68]

- o Passive smoking affects infant health. There is a two-fold increase in the incidence of respiratory disease among infants of mothers who smoke, an increase in related hospitalizations, and an increase in Sudden Infant Death Syndrome.[69]

- o Smoking cessation programs targeted to expectant mothers can significantly increase the birthweight of the baby. These programs achieve 12 to 16 percent higher quit rates than if pregnant women attempt to quit on their own.[70]

- o The Centers for Disease Control estimates that each $1 spent on smoking cessation programs for pregnant women could save $5 on the cost of hospital care for low birthweight infants.

ALCOHOL:

- Maternal drinking, especially heavy drinking, is associated with miscarriage, mental retardation of the child, low birthweight, and a cluster of congenital defects including nervous system dysfunction called Fetal Alcohol Syndrome (FAS). There is no established safe level of alcohol consumption during pregnancy.

- The incidence of Fetal Alcohol Syndrome is estimated at 1 to 3 per 1,000 live births. Among some Native American groups the rate is as high as 10 per 1,000. However, for every child born with FAS, ten times more suffer from alcohol-related problems. Effects can be seen in as many as two-thirds of infants born to women who drink heavily.[71]

- In 1989 the Surgeon General reported that were at least 5,000 infants born each year with Fetal Alcohol Syndrome and 50,000 with Fetal Alcohol Effects.[72]

- Nearly 40 percent of all married women giving birth in 1980 drank alcohol during their pregnancies.[73]

- Alcohol abuse is a major preventable cause of low birthweight among infants, and the primary preventable cause of mental retardation.[74]

- Although 50 percent of the married women in a 1980 national study were aware of the risk of smoking during pregnancy and 90 percent were aware of the risk of drinking large quantities of alcohol, 29 percent smoked during their pregnancy and 38 percent drank alcoholic beverages. Only 5 percent gave up smoking when they became pregnant and 11 percent gave up drinking.[75]

- Only 55 percent of the respondents in the 1985 National Health Interview Survey had heard of Fetal Alcohol Syndrome, and less than one-quarter correctly identified it as a set of birth defects related to alcohol consumption.[76]

TEEN PREGNANCY:

- The higher than average infant mortality rate for teens is not due to age alone, but to other risk factors associated with being a teenage mother. Teenage mothers are more likely than older mothers to be poor and unmarried. They are also shorter, lighter, less educated, and most important -- less likely to receive adequate prenatal care.[77]

- Young mothers under age seventeen have higher rates of infant mortality than mothers in their twenties and early thirties. In 1987, there were 182,902 to births to girls under age seventeen[78]

- In 1987, 10,311 infants were born to girls under age fifteen.[79]

- Infants born to teenagers are two to three times more likely to be low birthweight than infants born to mothers age 25-29 years and are twice as likely to die before age one.[80]

- In 1987, only 53 percent of pregnant teens received prenatal care in their first three months of pregnancy, compared to 79 percent of all 20- to 39-year-olds.[81]

Chapter VI
Inadequate Prenatal Care

Overview

The percentage of women receiving early and regular prenatal care declined significantly in the 1980s. In 1987, more than 74,000 pregnant women received no prenatal care at all -- a 50 percent increase over the 1980 rate. Between 1980 and 1987, the percentage of women obtaining late or no prenatal care increased 26 percent for blacks and 17 percent for whites. This increase is particularly disturbing in light of the escalating number of pregnant women engaging in high-risk behaviors such as "crack" cocaine use.

Prenatal care is defined as pregnancy- and infant-related medical and support services provided with the goal of promoting the health and well-being of the pregnant woman, the fetus, the infant, and the family up to one year after the infant's birth.[82] The three basic components of prenatal care are (1) early and continuing risk assessment, (2) health promotion, (3) medical and psychosocial interventions and follow-up.

Ideally, preventive care in pregnancy begins with family and preconceptional health planning. Unplanned pregnancy carries a significantly greater risk of poor birth outcomes, due in part to late entry into prenatal care. Preconceptional health planning can reduce medical and behavioral risks which may interfere with optimal fetal development.

Prenatal care should start as early as possible in the first trimester and continue at regular intervals throughout a woman's pregnancy. The American College of Obstetricians and Gynecologists recommends 13 prenatal care visits for a normal full-term pregnancy. High-risk pregnancies may need additional care.[83] Services which are particularly important for low-income or other high-risk women include social and support services such as transportation, home visiting, and health education; nutrition counseling and food supplementation; and substance abuse treatment. Because many women may need several of these services, the coordination of these services is very important.

Early and comprehensive prenatal care is associated with lower rates of maternal mortality, infant mortality, and low birthweight. Prenatal care is also cost-effective: the receipt of adequate prenatal care helps contain health costs by preventing conditions such as low birthweight which require expensive medical treatment after an infant is born. In other developed countries with lower infant mortality rates than the United States, such as Japan, Canada, and most Western European countries, comprehensive pregnancy care is available to all women. Consequently, almost all pregnant women in those countries enter prenatal care early in their pregnancies.[84]

The barriers that block access to basic health services for pregnant women and young children in this country are numerous.[85] They include:

(1) financial barriers such as inadequate or no insurance coverage;

(2) inadequate supply and distribution of medical providers and services for Medicaid-eligible and other low-income women;

(3) lack of coordination of services and inhospitable conditions at service sites; and

(4) individual characteristics such as a woman's beliefs, lifestyle, knowledge or attitudes about prenatal care.

The most significant access barrier is financial. Millions of pregnant women cannot afford the care that is so crucial to their health and the health of their children. Presently, most health care for pregnant women and young children is financed through private insurance and Medicaid. However, many families fall between the cracks of these two financing systems, particularly low-income working families.

In recent years, most states and the Congress have intensified efforts to improve access to basic health services for the nearly 15 million women of childbearing age who do not have insurance coverage for maternity care. By April 1990, states will be required to expand Medicaid eligibility to all pregnant women and children up to age six with family incomes below 133 percent of the federal poverty level ($13,380 for a family of three). Many states have gone one step further and have taken advantage of the option to expand Medicaid eligibility for pregnant women and infants with family incomes up to 185 percent of the federal poverty level. Other Congressional and state efforts have focused on removing bureaucratic barriers which also deter pregnant women from seeking early and regular care. These efforts include shortening lengthy Medicaid application forms and allowing for continuous Medicaid eligibility for pregnant women through sixty days post delivery.

Although the expansion of Medicaid eligibility has allowed more low-income women financial access to prenatal care, fewer obstetricians and family physicians now deliver care. The declining availability of obstetric providers has affected low-income women disproportionately.[86] Reasons for this decline include medical liability concerns,[87] low and/or slow Medicaid reimbursement, administrative complexities of the Medicaid program, and discriminatory attitudes on the part of providers toward serving low-income clients. In addition, in rural and inner-city areas, the decline in funding for the National Health Service Corps -- the one federal program whose purpose is to provide primary health care to underserved populations -- is adding to access problems for low-income families. Consequently, as the states expand Medicaid coverage to additional low-income pregnant women and infants, the question of who will serve these groups becomes paramount.

Traditionally, a minority of caregivers have provided the bulk of services to low-income mothers and young children. Several states have passed legislation to encourage greater provider participation in Medicaid. These initiatives include efforts to alleviate malpractice concerns and raise Medicaid reimbursement rates.

The Facts

PRENATAL CARE USE

(See figures 6-1, 6-2, 6-3)

- Between 1981 and 1987, the percentage of women obtaining late or no prenatal care in the U.S. increased from 9.1 to 11.1 for blacks and from 4.3 to 5.0 for

whites. In 1987, more than 74,000 pregnant women received no prenatal care at all -- a 50 percent increase over the 1980 rate.[88]

- One out of three pregnant women (some 1.3 million each year) receives what is considered less than adequate prenatal care -- defined as care beginning after the first three months of pregnancy and/or fewer than the 13 visits recommended by the American College of Obstetricians and Gynecologists.[89]

- In 1987, 76 percent of all infants were born to women who began prenatal care in the first three months of pregnancy, 18 percent to women who delayed care until the second three months, and 6.1 percent to women who either received care after six months of pregnancy or not at all.[90]

- Women who are poor, young, unmarried, black, Hispanic or Native American, or who have completed less than 12 years of education, are less likely to obtain adequate prenatal care than are those who are older, married, white, Asian and better educated.[91]

- Black and Hispanic women are more than twice as likely to receive late or no prenatal care as white women -- 40 percent versus 20 percent respectively. Black women are also twice as likely to experience a variety of adverse pregnancy outcomes including prematurity, low birthweight, and infant and fetal death.[92]

- About half of all women who have not completed high school receive late or no prenatal care, compared to 10 percent of college-educated mothers.[93]

- Almost one-quarter of all births are to unmarried women; unmarried mothers are three times as likely as married mothers to receive inadequate prenatal care.[94]

- In 1985, an estimated 4 million women and 630,000 births -- one out of every six births -- were covered by Medicaid, the main source of public financing for low-income women and children's health care. This number is growing due to recent eligibility expansions for the Medicaid program.[95]

- Pregnant women who are eligible for Medicaid often have a difficult time obtaining prenatal care: many physicians take no or limited numbers of Medicaid patients and public clinics serving low-income and Medicaid recipients are overcrowded. In separate surveys, 60 percent of Los Angeles county women and 73 percent of New York City women with no care stated that they had tried to get care but faced a variety of obstacles to obtaining care.[96]

- In 1987, an estimated 5,000 pregnant women in San Diego and 1,850 women in Orange County were turned away from prenatal clinics. In Los Angeles county, women waited up to 16 weeks to get a prenatal care appointment.[97]

EFFECTIVENESS OF PRENATAL CARE

- Birth outcomes are poorest if a pregnant woman does not see a health professional until the last trimester of pregnancy. Babies born to women who received no prenatal care are three times more likely to be born low birthweight and four times as likely to die as those born to mothers with first trimester care.[98]

- The Institute of Medicine calculated that a dollar spent on prenatal care for high-risk women could save more than $3 on the cost of providing direct medical care during the first year of an infant's life.[99]

- The lifetime custodial cost of caring for a low birthweight baby can reach $500,000, while prenatal care -- which may prevent low birthweight in the first place -- costs as little as $500.[100]

- Participation in the Special Supplemental Food Program for Women, Infants, and Children (WIC) decreases the likelihood of premature births and increases birthweight between 23 and 47 grams per child.[101]

- WIC participation results in significant increases in the number of women seeking prenatal care during the first trimester and is associated with an increase in the number of prenatal care visits.[102]

- For every dollar invested in the prenatal component of the WIC program, more than three dollars are saved in short-term hospital costs.[103]

- WIC participation is associated with a reduction in Medicaid costs. For every dollar spent in the prenatal component of WIC, about 49 cents in Medicaid costs were saved just in the first 45 days after the child's birth.[104]

- Despite its proven effectiveness, the WIC program serves only 60 percent of all eligible low-income pregnant women, infants, and children.[105]

FINANCIAL BARRIERS TO CARE

- Poor birth outcomes such as low birthweight are 30 percent more common among uninsured low-income women than among the insured. Uninsured low-income women are less likely to receive early prenatal care and are twice as likely to receive late or no prenatal care.[106]

- Women with private insurance tend to seek prenatal care early and more often. Four-fifths of privately insured women begin prenatal care in the first trimester and make nine or more prenatal care visits. Only 36 percent of women with Medicaid coverage and 32 percent of those without insurance begin prenatal care early and make nine or more visits.[107]

- In 1985, approximately 14.6 million women of childbearing age (26%) either had no health insurance or had insurance that did not cover maternity care. Of these, 9.5 million had no health insurance and another 5 million had private health insurance that did not include maternity care.[108]

- Delivery and newborn hospital costs comprise a sizeable portion of the hospital uncompensated care burden. Each year 550,000 women with no insurance coverage for maternity care deliver their babies in hospitals.[109]

- About half of women in their childbearing years without insurance are either married to workers or have jobs themselves.[110]

- In 1987, 37 million Americans lacked health insurance. Of these, more than 12 million were children under age eighteen, a 14 percent increase since 1981. More than 20 percent of these uninsured children lived with a parent insured through work.[111]

PROVIDER PARTICIPATION IN MEDICAID

- An estimated 24,000 obstetricians-gynecologists and 18,000 physicians in general or family practice provide obstetric care. Nearly 3,000 certified nurse midwives provide maternity care nationwide.[112]

- Only 63 percent of obstetricians report that they take Medicaid patients; those obstetricians see only about twelve patients a year.[113]

- Many states and communities face severe shortages of providers available and willing to take Medicaid and other low-income patients. In 1987, nearly 800 counties in the U.S. had no clinic site providing prenatal care.[114]

- The most commonly cited reason for an obstetrician not serving Medicaid patients is low reimbursement rates. Other factors influencing the decision include slow payment, administrative complexities of Medicaid, short-term and sporadic eligibility periods which leave providers unsure of whether they will be reimbursed for care rendered, the high cost of malpractice insurance, and the perception of increased liability when treating Medicaid patients.[115]

Chapter VII
Agenda for the Next Generation:
Preventive Care for Pregnant Women and Infants

"A child doesn't have to be in a wheelchair to have a birth defect. Limiting a child's full potential, even by a small amount, is going to have an effect on society."

Lawton Chiles, Chairman, National Commission to Prevent Infant Mortality

The Trends

Although unanswered questions remain about the exact causes of our country's negative infant health trends, our nation can and should intervene more vigorously. The disturbing trends outlined in this report -- continued high infant mortality, stagnating low birthweight rates, an unacceptable black-white infant mortality gap, and an increasing number of high-risk pregnant women -- present a clear and convincing case for taking action now. The failure to act carries severe consequences: we will spend more for the medical care of sick children, we will divert more resources to remedial education for disabled children, and the productivity of our nation's workforce will decrease.

Preventive Care

The issue that policymakers must resolve is how to target more resources to preventive health care and other services. Although prevention has broad support as a strategy for enhancing the public's health, it has not competed well for funding. Traditionally,

the largest share of resources has been spent on expensive, highly technical obstetric and neonatal care.

The cost arguments for the prevention of low birthweight are convincing. Low birthweight is such a powerful predictor of cost that even small improvements result in great savings. Increasing the birthweight of just one low birthweight infant from two pounds to two and one-half pounds would result in a cost savings of nearly $17,000 in acute inpatient hospital costs alone. Small improvements in the average birthweight of all low birthweight infants would result in an immediate savings of $70 to 95 million in short-term acute care costs -- long-term cost savings would be much greater.[116]

Long-term costs can be measured in terms of poor health among children, school failure, and decreased workforce productivity. Children born low birthweight or to substance-abusing mothers experience a disproportionately high incidence of academic difficulty at the time of school entrance. They are more likely to experience chronic health conditions, are hospitalized more often, and in general are in poorer health than children born at normal weight.[117] The 1988 National Survey of Teachers reported that two-thirds of all teachers found "poor health" among children to be a problem.[118] Many of the learning and behavior problems teachers must contend with can be prevented with prenatal and pediatric care.

If children are unable to achieve in school, they will not obtain the skills necessary to be productive members of the workforce. Half of all new jobs in the year 2000 will require an education beyond the high school level.[117] Without basic training and

education, children will be at risk for joblessness and our society will suffer a shortage of workers with advanced skills. As a result, the ability of the United States to compete internationally will slip.

We know what works to reduce low birthweight and improve birth outcomes. Prenatal care serves to introduce many of these known, effective interventions. They include pregnancy planning; prenatal risk assessment and medical surveillance; social support; nutritional supplementation; substance abuse programs targeted to pregnant women; and the delivery of comprehensive, coordinated prenatal care.

The decision to target more public resources to preventive care will be made on the political battlefield and will likely be affected by cost containment arguments. Given the cost-effectiveness of preventive maternal and infant health care, these battles can and must be won.

Effective Prenatal Interventions

The following facts, discussed throughout the report in terms of the troubling trends of the 1980s, provide a powerful blueprint for action to reduce the incidence of low birthweight and infant mortality:

- **If all women began prenatal care in the first trimester,** the number of low birthweight births would be reduced by an estimated 12,600 per year.[118]

- **If all black women began prenatal care in the first trimester,** 3 to 5 percent of low birthweight among black infants could be prevented. More visits could prevent an additional 9 to 12 percent of low birthweight.[119] Together, these changes would reduce the number of low birthweight births among black infants by 9,770 to 13,840 and would help close the black-white infant mortality gap.

- **If prenatal care were provided in a coordinated, comprehensive manner,** with appropriate referrals to the WIC program, substance abuse treatment, and high-risk maternity care, the low birthweight rate among the infants of high-risk women could be reduced significantly.[120]

- **If smoking during pregnancy were eliminated,** we could expect a 10 percent reduction in infant mortality and a 25 percent reduction in low birthweight.[121] For 1987 this translates into 3,840 fewer infant deaths and 65,580 fewer low birthweight births.

- **If alcohol consumption during pregnancy were eliminated,** we could expect a minimum of 5,000 fewer cases of Fetal Alcohol Syndrome and 50,000 fewer alcohol-affected infants.[122]

- **If more pregnant women were enrolled in the Special Supplemental Food Program for Women, Infants and Children (WIC),** we could expect a decrease in low birthweight, an increase in the number of women seeking early prenatal care, and a modest reduction in the black-white infant mortality gap.[123]

- **If all pregnancies were planned,** infant mortality could be reduced by an estimated 10 percent and low birthweight by 12 percent.[124]

Conclusion

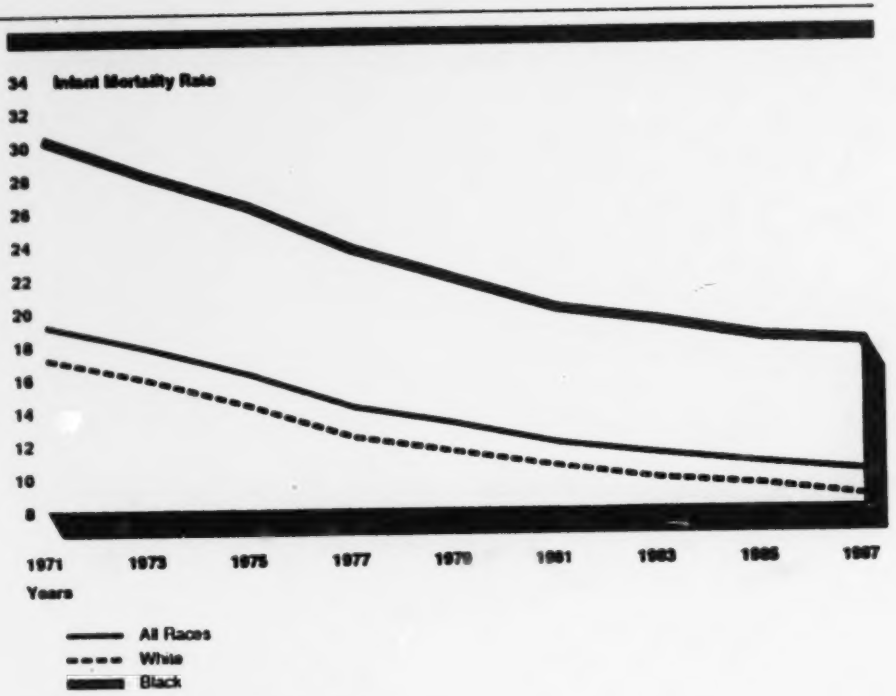
The litany of known effective interventions tells us that we are not sufficiently applying our knowledge of how to reduce low birthweight and improve birth outcomes. When prenatal care begins early in pregnancy and is coordinated with other interventions such as smoking cessation, pregnancy planning, and nutrition counseling with food supplementation, the result will be children who are born heavier and healthier. The short-term costs of providing special health services and remedial education for disabled children can be avoided and long-term gains in the productivity of the workforce will be substantial.

America must start thinking of infant mortality as a problem with a solution. That solution is preventive prenatal care which costs much less than intensive hospital care

for infants. To reverse the troubling trends of the 1980s, our nation must commit itself to two broad measures: (1) providing universal access to early maternity and pediatric care for all mothers and infants; and (2) making the health and well-being of mothers and infants a national priority. When we make a commitment to a better start for our children, we create a better future for the next generation of Americans.

FIGURE 2-1

Infant Mortality Rates, by Race, 1971-1987 (a)

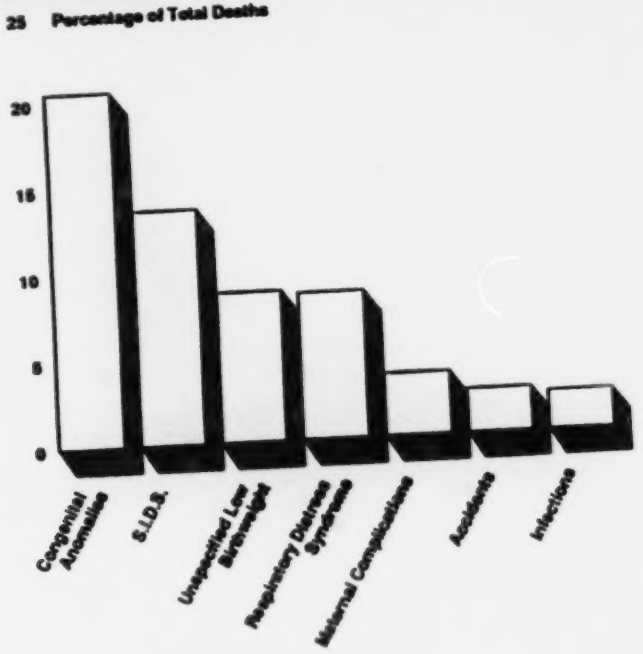


Source: National Center for Health Statistics

a. The infant mortality rate is defined as the number of infant deaths per 1,000 live births.

FIGURE 2-2

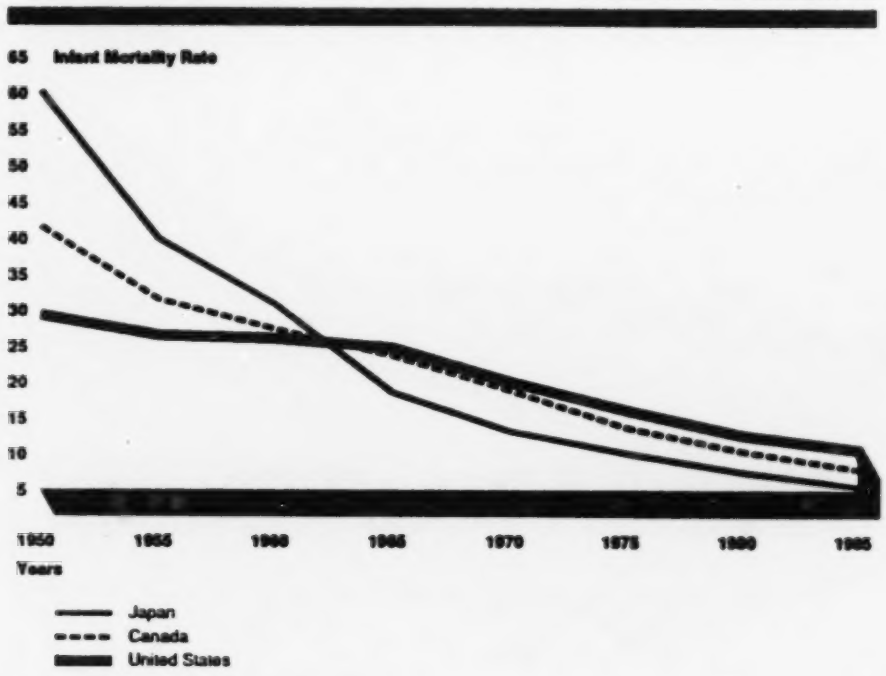
Leading Causes of Infant Death, 1997



Source: National Center for Health Statistics

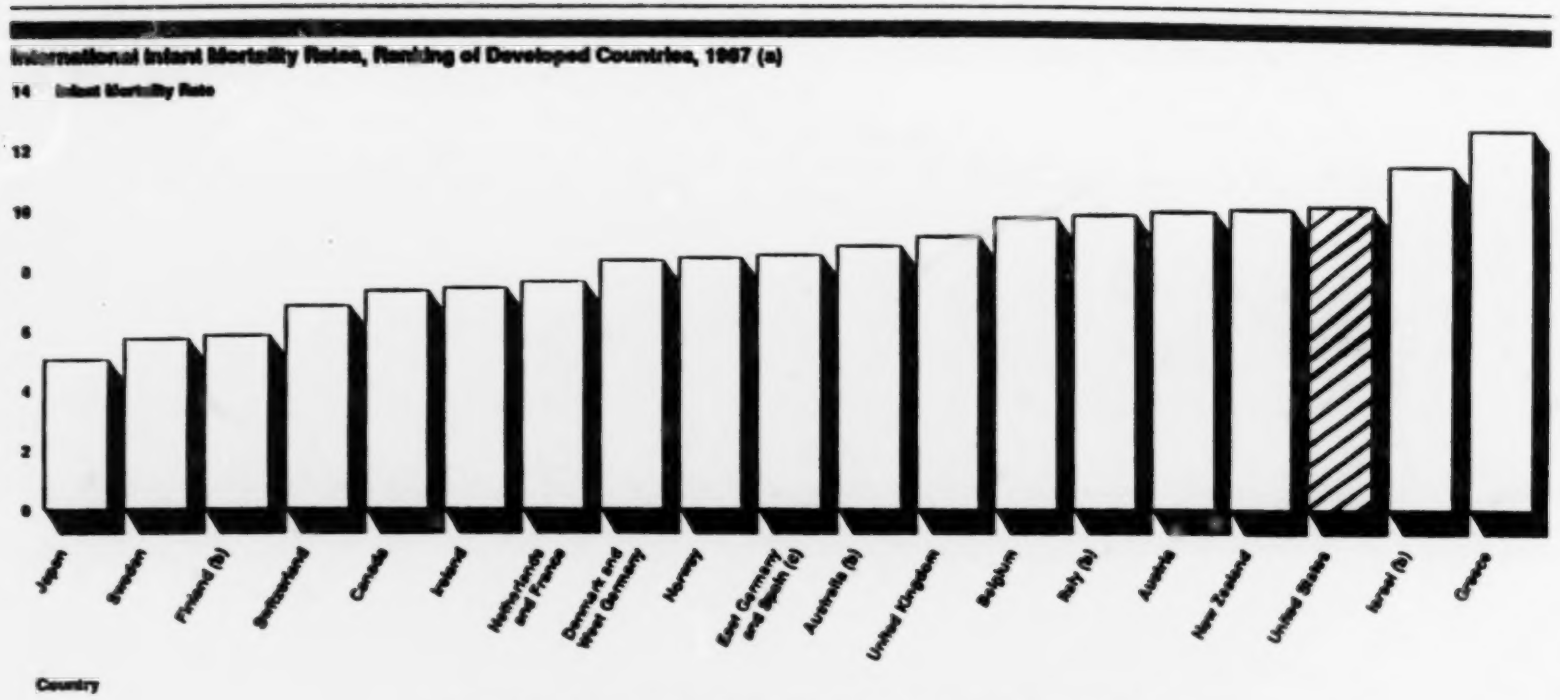
FIGURE 2-3

Japan, Canada, and United States Infant Mortality Rates, 1950-1985



Source: National Center for Health Statistics

FIGURE 2-4



Source: United Nations Statistical Office, Population and Vital Statistics Report, April, 1989.

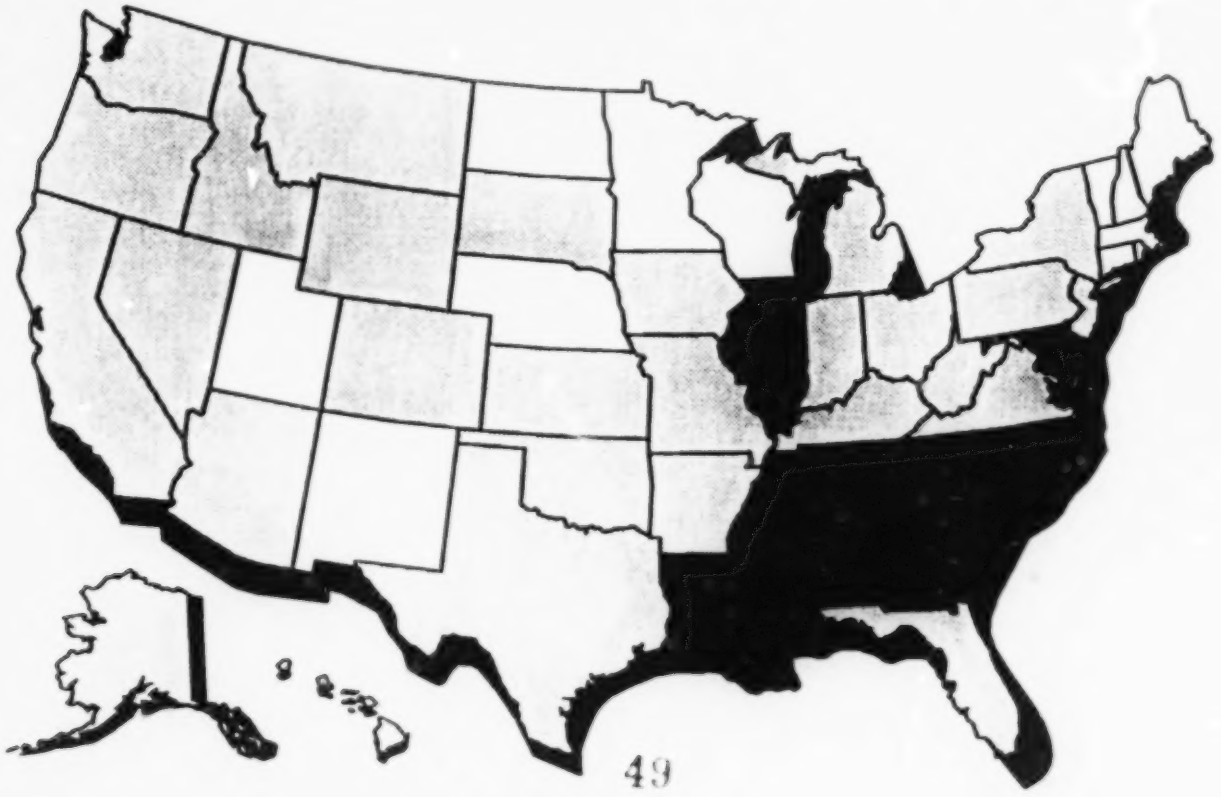
a. Several countries not defined as "developed" by the U.N., such as Singapore and Hong Kong, have infant mortality rates below the U.S. rate.

b. Rate is for 1986.

c. Rate is for 1985.

FIGURE 2-5

Infant Mortality Rates by State, 1987



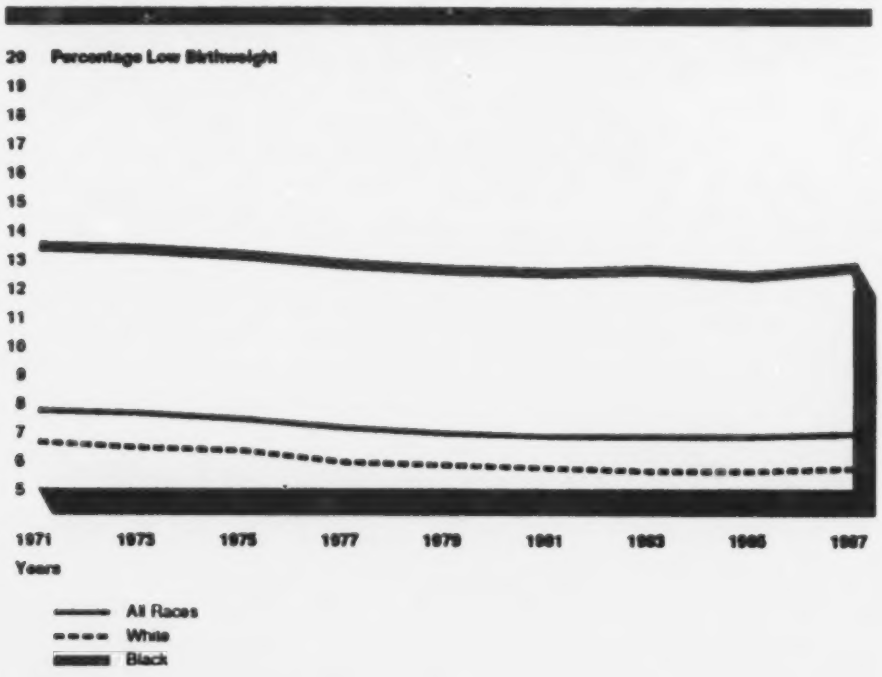
Infant Mortality Rate less than 9.0 per 1,000

Infant Mortality Rate between 9.0 and 11.0 per 1,000

Infant Mortality Rate greater than 11.0 per 1,000

FIGURE 3-1

Low Birthweight Rates, by Race, 1971-1987 (a)

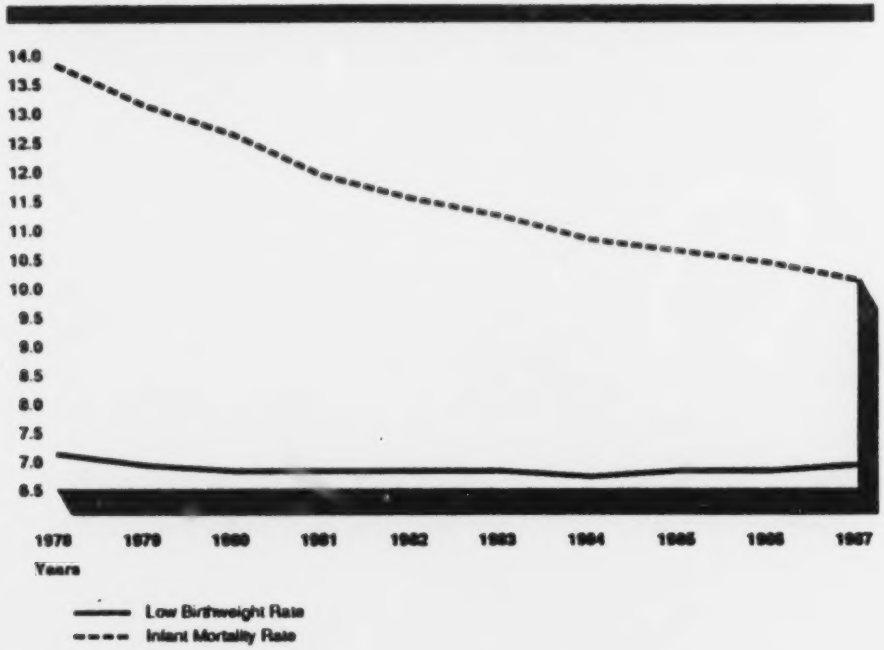


Source: National Center for Health Statistics

a. The low birthweight rate is defined as the number of babies born weighing less than 5 1/2 pounds per 100 live births.

FIGURE 3-2

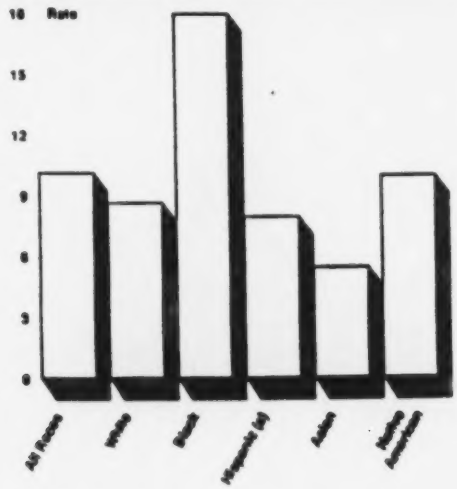
Infant Mortality Rate Versus Low Birthweight Rate, U.S., 1978-1987



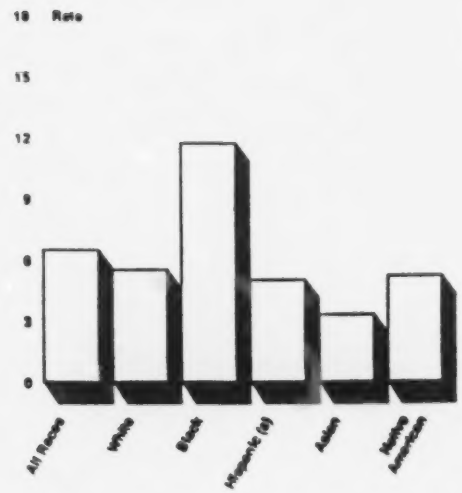
Source: National Center for Health Statistics

Note: Infant mortality rate is per 1,000 live births. Low birthweight is per 100 live births.

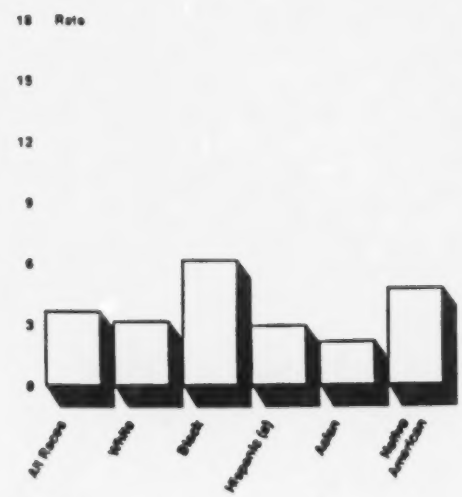
U.S. Infant Mortality Rates, by Race, 1987



U.S. Neonatal Mortality Rates, by Race, 1987



Postneonatal Mortality Rates, by Race, 1987



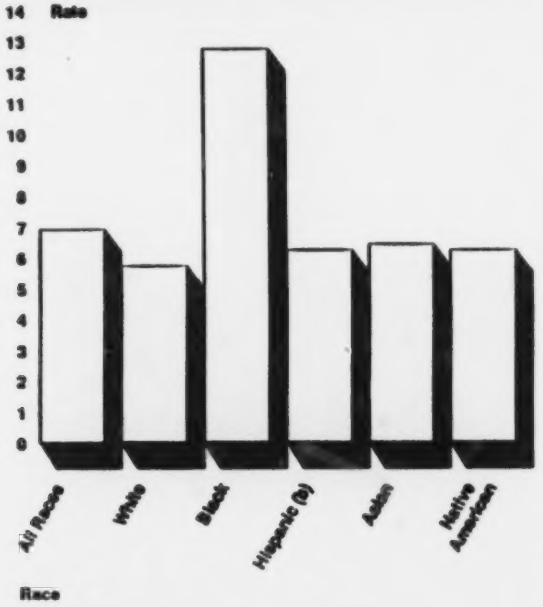
Source: National Center for Health Statistics

a. Rate based on data from 18 reporting states and the District of Columbia.

FIGURE 4-1

FIGURE 4-2

Low Birthweight Rate, by Race, 1987 (a)



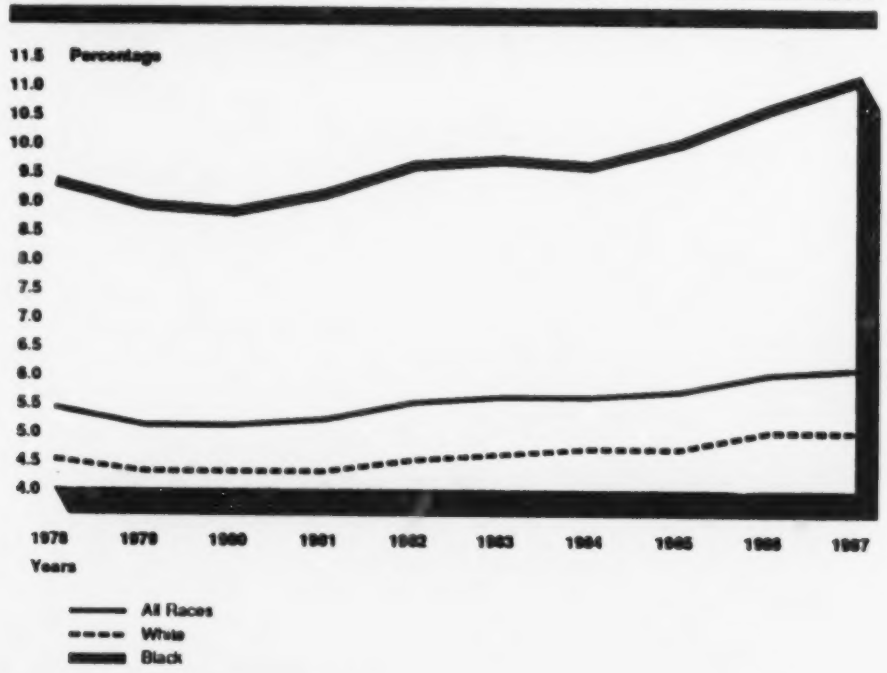
Source: National Center for Health Statistics

a. Low birthweight is defined as less than 5 and 1/2 pounds or 2,500 grams.

b. Rate based on data from 23 reporting states and the District of Columbia.

FIGURE 6-1

Percentage of Babies Born to Women Receiving Late or No Prenatal Care, By Race, U.S., 1978-87 (a)

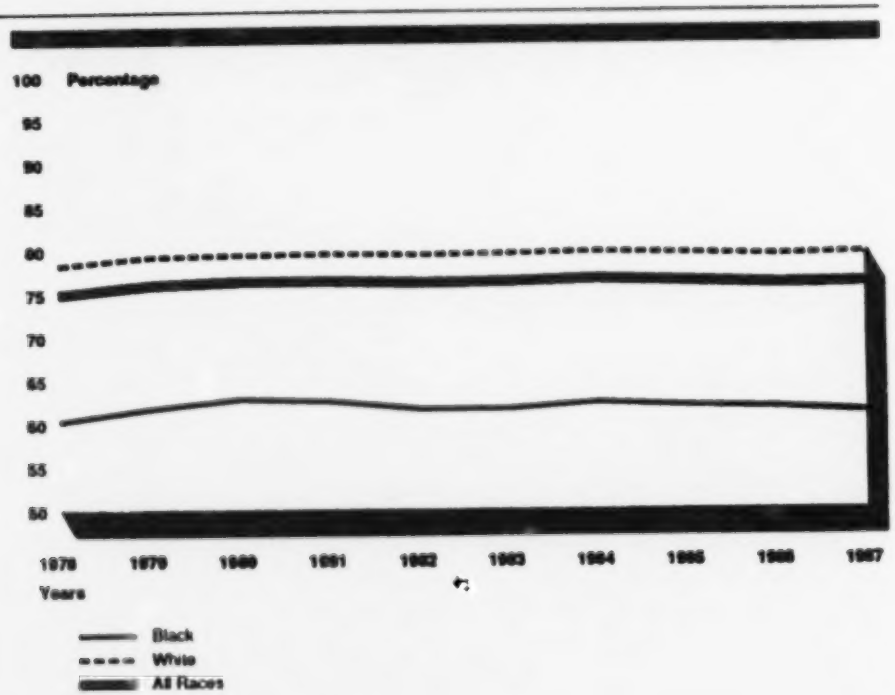


Source: National Center for Health Statistics

a. Late is defined as starting in the third trimester.

FIGURE 6-2

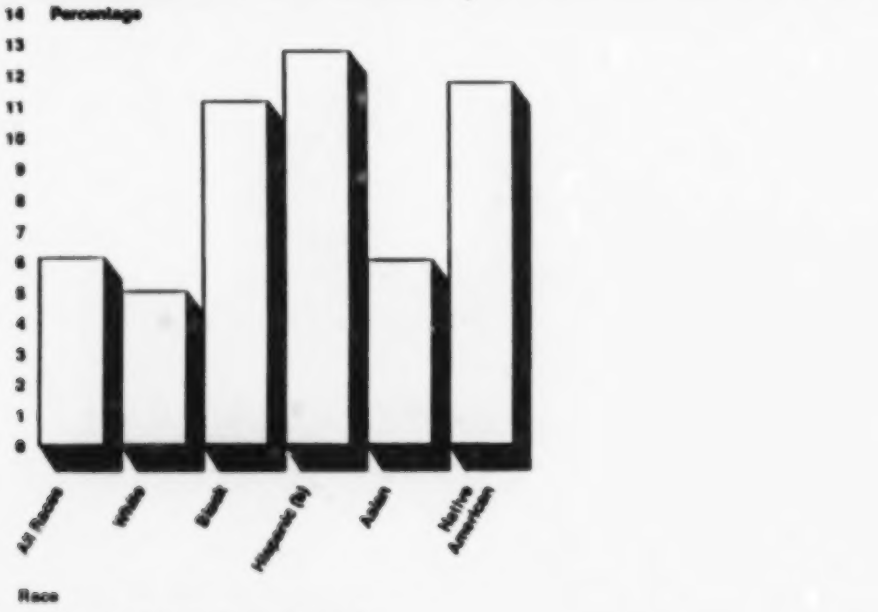
Percentage of Babies Born to Women Receiving First Trimester Care, by Race, U.S., 1978-87



Source: National Center for Health Statistics

FIGURE 6-3

Percentage of Women Receiving Late or No Prenatal Care, by Race, 1987 (a)



Source: National Center for Health Statistics

a. Late is defined as starting in the third trimester.

b. Percentage based on data from 23 reporting states and the District of Columbia.

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National Commission to Prevent Infant Mortality

The National Commission to Prevent Infant Mortality was formed by Congress in 1986 to create a national strategic plan to reduce infant mortality and morbidity in the United States. The sixteen-member Commission includes Members of Congress, the Secretary of Health and Human Services, the Comptroller General of the United States, representatives of state government and experts in the field of maternal and child health.

Knowing that many of the answers on how to promote the health of children have existed for decades, the Commission chose to focus on practical solutions at the federal, state, and local levels for improving the health and well-being of mothers and children rather than creating a new body of research.

In August 1988, the Commission presented its findings to the President and Congress in its report entitled, Death Before Life: The Tragedy of Infant Mortality. This report detailed a series of action steps which could be implemented in both the short and long term.

The National Commission to Prevent Infant Mortality continues its work to create mechanisms for implementing the recommendations contained in the report. The current activities of the Commission continue to bring national attention and a strengthened momentum to activities which promote the health of mothers and children.

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